



Application area

- Chemical and petrochemical industry
- Process engineering
- General process technology

Technical Data

Case design

Designs

- field housing IP 65 or IP 67, with cable gland
- right-angle plug per DIN EN 175301-803-A (DIN 43650, model A), IP 65
- cable connection, IP 67
- circular connector M12, IP 65
- case material stainless steel
- electronics encapsulated with silicone.
- Inner chamber aeration for measuring ranges < 16 bar over case thread or connection cable (depending on design)

Process connection

see page 2 and order code for variants.
Material-no.: 1.4404 (316L) for sleeve and diaphragm.
O-ring seal from NBR (type series CE6100)

Temperature ranges

ambient temperature range: -25...+70 °C
storage temperature range: -40...+90 °C
process temperature:
· standard: -10...+80 °C
· with temperature decoupler: -10...+140 °C
(short term, for sterilization)
other temperature ranges upon request

System filling

foodstuff oil FD1 (USDA-H1 per FDA)

Measuring ranges/overrange limits

see order details
intermediate measuring ranges upon request

Response time

≤ 20 ms

Measuring accuracy

linearity error incl. hysteresis: <+ 0.2 % f.s.
(<+ 0.3 % f.s. for measuring ranges ≥ 0...60 bar)
fixed-point adjustment
accuracy of adjustment: <± 0.2 % f.s.
temperature effect im compensated temperature range 0...50 °C:
· zero point < 0.2 %/10 K f.s.
· span < 0.2 %/10 K f.s.
other values upon request

Auxiliary energy supply

standard design:
· nominal voltage 24 V DC
· function range 6...30 V DC
· max. allowable operating voltage 30 V DC

Supply voltage influence

≤ 0.01 % f.s. / V

Signal output

4...20 mA, 2-wire circuitry

Current limitation in output signal

max. output current approx. 30 mA

Adjusting range

approx. ± 5 % f.s.
zero point and measuring span separately adjustable

Burden

2-wire circuitry

standard design $R_a = \frac{U_b - 6 \text{ V}}{20 \text{ mA}}$ (KOhm)

U_b = operating voltage

R_a = max. permissible burden resistance (incl. lead)

Features

- Measuring ranges 0...1 bar up to 0...400 bar
- Linearity error including hysteresis <+ 0.2 % f.s.
- Piezoresistive measuring system
- Internal diaphragm (type series CB60 . .)
- Flush mounted diaphragm (type series CE61 . .)
- Wetted parts of stainless steel; completely welded
- Stainless steel housing as standard or field housing
- Degree of protection IP 65, IP 67 option
- Output signal: 4...20 mA
- Process temperature up to 140 °C (short term, for sterilization)

Options

- Explosion protection for gases
- Classification per SIL 2
- Approval German Lloyd

Application

The device converts pressure measurements into a load-independent current signal. Because of their robust design these transmitters are suitable for use in tough environments. The process temperature is allowed up to 140 °C (short term). The flush mounted diaphragm allows dead-zone free measuring. The transmitters have extensive circuitry which ensures electromagnetic compatibility.

Burden influence

for 500 ohm burden change: ≤ 0.1 % f.s.

Functional safety

EN 61508, classification per SIL 2,
TÜV-Reg.-No. 44 207 1038 1144

Ex approval

CENELEC approval according to ATEX
explosion protection intrinsically safe
TÜV 00 ATEX 1557 X

Ex II 2G Ex ib IIC T6

- U_{max} ≤ 30 V DC
- I_{max} ≤ 150 mA
- P_{max} ≤ 1 W
- C_i ≤ 49 nF
- L_i ≤ 33 µH

GL approval (German Lloyd)

per certificate no. 58798-08 HH

Weights

- case with connector approx. 200 g
- field housing: + approx. 260 g
- with temperature decoupler + approx. 50 g

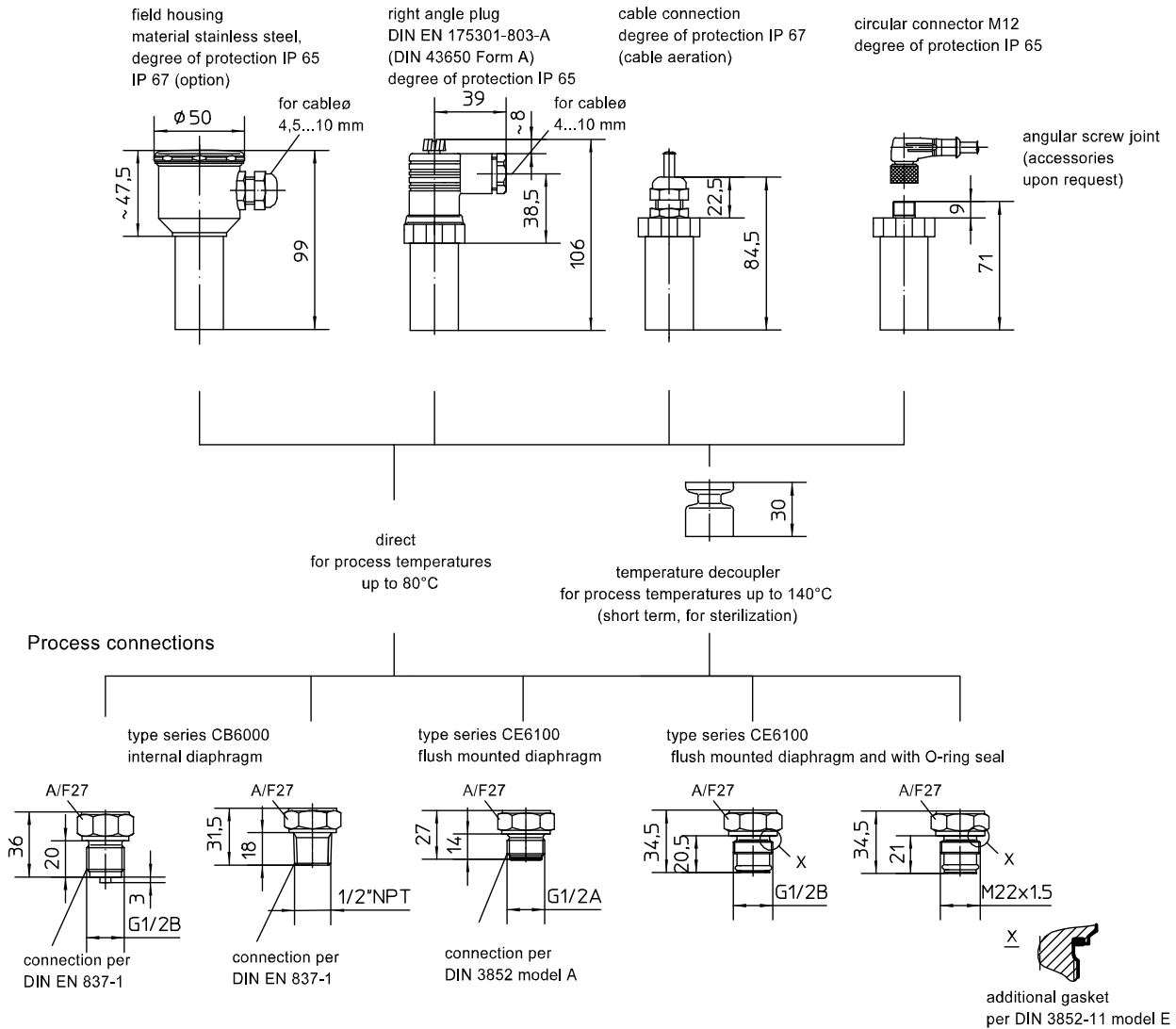
Installation position

any

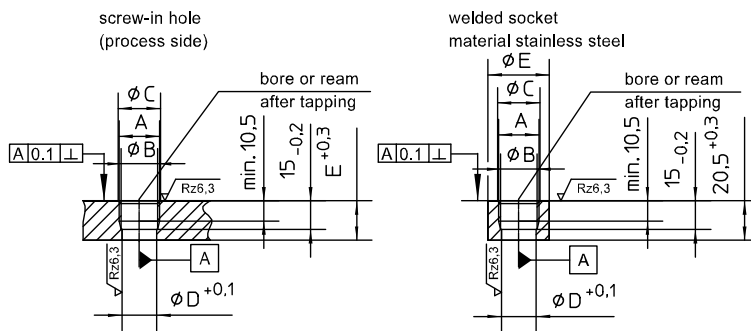
EMC test

- noise immunity according to EN 50082 section 2, version March 1995 issue for industry
 - emitted interference according to EN 50081 section 1, 1993 issue for residential and industrial areas
- Device emits no radiation of its own

Dimensions/Designs



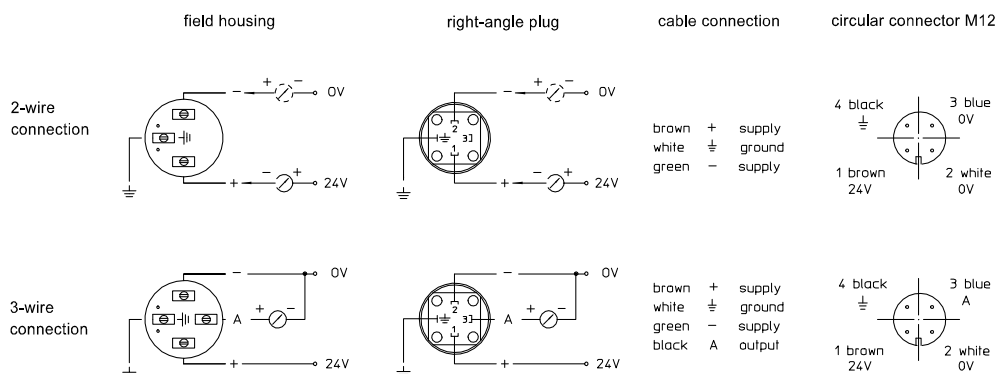
screw-in hole/welded socket for flush mounted diaphragm with O-ring (type series CE6100)




| A | ϕB | ϕC | ϕD | E |
|----------|----------|----------|----------|------|
| G 1/2 | 19.4 | 21.3 | 18.2 | 20.5 |
| M 22x1,5 | 20.7 | 22.6 | 18.2 | 21 |

| A | ϕB | ϕC | ϕD | ϕE | order code |
|-------|----------|----------|----------|----------|------------|
| G 1/2 | 19.4 | 21.3 | 18.2 | 32 | MC1000-A1 |

Connection diagram



Order Details - please give additional specifications for models not listed -**Pressure transmitter COMPACT for general applications**

| | | | | | | | |
|--|--|--|--|--|--|---------|----------------------------|
| design version | internal diaphragm | · for process temperature up to + 80 °C (standard) | | | | CB601 . | |
| | | · for process temperature up to + 140 °C (short term, for sterilization) | | | | CB602 . | |
| | flush mounted diaphragm | · for process temperature up to + 80 °C (standard) | | | | CE611 . | |
| | | · for process temperature up to + 140 °C (short term, for sterilization) | | | | CE612 . | |
| Ex-protection | · without | | | | | 0 | |
| | ·  II 2G Ex ib IIC T6 | | | | | 1 | |
| | meas. range | overload limit (bar) | CB6000 connection G 1/2 B/ 1/2 NPT | CE6100 connection with 0-ring G 1/2 B/ M22x1.5 | CE6100 connection DIN 3852 G 1/2 A | | |
| | 0...1 bar | 3 | x | x | - | | A1053 |
| | 0...1.6 bar | 10 | x | x | x | | A1054 |
| | 0...2.5 bar | 10 | x | x | x | | A1055 |
| | 0...4 bar | 20 | x | x | x | | A1056 |
| | 0...6 bar | 60 | x | x | x | | A1057 |
| | 0...10 bar | 60 | x | x | x | | A1058 |
| | 0...16 bar | 60 | x | x | x | | A1059 |
| | 0...25 bar | 60 | x | x | x | | A1060 |
| | 0...40 bar | 100 | x | x | x | | A1061 |
| | 0...60 bar | 200 | x | x | x | | A1062 |
| | 0...100 bar | 200 | x | - | x | | A1063 |
| | 0...160 bar | 250 | x | - | x | | A1064 |
| | 0...250 bar | 750 | - | - | x | | A1065 |
| | 0...400 bar | 750 | - | - | x | | A1066 |
| | -1...0 bar ² | 3 | x | x | - | | A1086 |
| | -1...0.6 bar ² | 10 | x | x | x | | A1087 |
| | -1...1.5 bar ² | 10 | x | x | x | | A1088 |
| | -1...3 bar ² | 20 | x | x | x | | A1089 |
| | -1...5 bar ² | 20 | x | x | x | | A1090 |
| | -1...9 bar ² | 60 | x | x | x | | A1091 |
| | -1...15 bar ² | 60 | x | x | x | | A1092 |
| | 0...1 bar abs | 3 | x | x | - | | B1053 |
| | 0...1.6 bar abs | 10 | x | x | x | | B1054 |
| | 0...2.5 bar abs | 10 | x | x | x | | B1055 |
| | 0...4 bar abs | 10 | x | x | x | | B1056 |
| | 0...6 bar abs | 60 | x | x | x | | B1057 |
| | 0...10 bar abs | 60 | x | x | x | | B1058 |
| | 0...16 bar abs | 60 | x | x | x | | B1059 |
| | 0...25 bar abs | 60 | x | x | x | | B1060 |
| output signal | · 4...20 mA, 2-wire technology | | | | | | H1 |
| process connection | type series CB6000 | · G 1/2 B, inline diaphragm seal for meas. ranges 0...1 to 160 bar | | | | | K1010 |
| | | · 1/2"NPT, inline diaphragm seal for meas. ranges 0...1 to 160 bar | | | | | K1030 |
| | type series CE6100 | · G 1/2 B, flush mounted diaphragm with 0-ring for meas. ranges 0...1 to 60 bar | | | | | K1010 |
| | | · M22x1.5, flush mounted diaphragm with 0-ring for meas. ranges 0...1 to 60 bar | | | | | K1020 |
| | | · G 1/2 A, flush mounted diaphragm acc. to DIN 3852, for meas. ranges 0...1.6 to 400 bar | | | | | K1022 |
| case/ electrical connections | · field housing of stainless steel, with cable gland | | · IP 65, measuring ranges ≤ 16 bar, only | | | | T410 |
| | | | · IP 67 | | | | T420 |
| | · right angle plug according to DIN EN 175301-803-A (DIN 43650, model A), IP 65 | | | | | | T110 |
| | cable connection IP 67 | · 2 m cable length | | | | | T310 |
| | | · 5 m cable length | | | | | T311 |
| | | · 10 m cable length | | | | | T312 |
| | | · cable length as in writing | | | | | T319 |
| | · circular connector M12, IP 65 ¹ | | | | | | T120 |
| additional features (to be indicated in case of need, only): | | | | | | | |
| functional safety per EN 61508, classification per SIL 2 | | | | | | | W2602 |
| approval German Lloyd | | | | | | | W2652 |
| Order code (example): | | | | | | | CB6010 A1057 H1 K1010 T410 |
| accessories | | | | | | | |
| · welded socket of stainless steel G 1/2" | | | | | | | MC1000-A1 |

x = available

¹ connectors with cable connection see product group D6² negative relative pressure ranges (e.g. -1...+1 bar) are adjusted at works to 0...100%, e.g. 4...20mA.
Long-term vacuum measurements at temperatures above +50°C may cause changes in the properties of the measurement device.
Vacuum-proof designs are available upon request.